from the rise did not exceed $1,000, while property to the value of about $12,500 was saved by the warnings.

The last local flood of the month occurred in the Willamette Valley from January 19 to 23, inclusive, and was caused by warm and heavy rains on January 17 and 18 falling upon a considerable quantity of fresh snow that had fallen during the previous week. The Yamhill River was quite high, but in the remaining tributaries and in the main stream only moderate flood stages prevailed. A peculiar phase of the flood was the almost simultaneous occurrence of the crest stages in both the tributaries and the main stream. This was due to the deficient run-off from upstream points, the lower tributaries raising the main stream to the bank-full stage, and the water from the upper ones arriving in time to cause only a further slight rise. Accurate forecasts for this flood were necessarily difficult, and the moderate tone of the warnings prevented a large amount of unnecessary work. No losses were reported, except of a few bridges in the country districts.

On January 18 advisory warnings of rapid rises in the mountain streams of the State of Washington were also issued. These warnings were to the effect that the floods would not be severe unless still heavier rains should fall.

Ice conditions did not change materially during the month, except in Minnesota and North Dakota, where the comparatively low mean temperatures were accompanied by a considerable increase in the thickness of the ice. The maximum thickness reported was 33 inches at Bismarck, N. Dak., at the end of the month.

Reports from mountain snowfall stations in the West showed an improvement in conditions, but nothing unusual except in California, where the fall was excessive. In many places in California the total fall of snow was over 200 inches, and at Tamarack, in Alpine County, a fall of 400 inches was reported, of which 310 inches remained at the end of the month. At Summit, in Placer County, 283 inches fell, of which 218 inches remained at the end of the month. Streams were bank full and there was an abundance of water in sight.

On January 1, 1911, the new river district of Iola, Kans., was established, with territory comprising that portion of the watershed of the Neosho River from Neosho Rapids northward, and the river district of Fort Smith, Ark., curtailed accordingly. The change was made in order to facilitate the reception and dissemination of river information regarding the upper Neosho River.

Hydrographs for typical points on several principal rivers are shown on Chart I. The stations selected for charting are Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport, on the Red.

SPECIAL PAPERS ON GENERAL METEOROLOGY.

RECENT ADDITIONS TO THE WEATHER BUREAU LIBRARY.

C. FITZHUGH TALMAN, Librarian.

The following have been selected from among the titles of books recently received, as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies. Anonymous publications are represented by a ——.

Aiginētēs, Dēmētrios.
Πρακτικὴ μετεωρολογία . . . 2d. ed. *Ἐν Ἀθήναις.* 1909. 191 p. 8°.

Carnegie institution of Washington.
Yearbook, 1910. v. **9.** Washington. 1911. xvi, 238 p. 4°.

Chemulpo (Korea). Meteorological observatory.
Scientific memoirs. v. **1.** Chemulpo. 1910. v. p. 4°.

Eiffel, G.
Atlas météorologique pour l'année 1909. Paris. 1910. v. p. f°.

Finch, William Coles-
Water, its origin and use. New York. 1909. xxi, 483 p. 8°.

Gruner, P.
Dämmerungserscheinungen und Alpenglühen beobachtet in Bern, 1910. (Separat-Abdruck aus den Mitteil. d. Naturf. Gesell. Bern, 1910.)

Hastings, Milo M.
Cold-storage evaporimeter. Washington. 1909. 8 p. 8°. (U. S. Bureau animal industry. Circ. 149.)

Heiskell, Henry L.
Instructions to the marine meteorological observers of the U. S. Weather bureau. 3d. ed. Washington. 1910. 68 p. 8°. (W. B. No. 444.)

Hopkins, N. Munroe.
Standard lightning protection for the consolidated power-plant chimneys at United States navy yards. (Reprinted: Jour. Amer. soc. naval eng., v. **29,** No. 2, p. 383–405.)

11th International geological congress, Stockholm, 1910.
Die Veränderung des Klimas seit dem Maximum der letzten Eiszeit. . . . Stockholm. 1910. lviii, 459 p. 4°.

International meteorological committee.
Report . . . Commission on maritime weather signals. . . . Appendix 2.—Provisional summary of maritime weather signals at present in use in the various countries of the globe. [2d ed.] London. 1911. 21 p. 8°. (M. O. No. 206.)

McAdie, Alexander [George].
Notes on frost . . . 2d. ed. Washington. 1910. 32 p. 8°. (U. S. Department of agriculture. Farmers' bull. 104.)

Marvin, Charles Frederick.
Measurement of precipitation. Instructions on the measurement and registration of precipitation by means of the standard instruments of the U. S. Weather bureau. Circular E, Instrument division. 3d. ed. Washington. 1910. 39 p., 10 figs. 8°. (U. S. Weather bureau. No. 445.)

Mysore. Meteorological department.
Rainfall registration in . . . 1909. Bangalore. 1910. 47 p. 4°

Negro, Carlo.
Sulla elettricità e radioattività della precipitazione atmosferica. Roma. 1910. 33 p. 4°. (Estratto: Mem. Pontif. accad. Romana d. Nuovi Lincei, v. **28.**)

Observatorio de Madrid.
Anuario, 1911. Madrid. 1910. 690 p. 12°.

Prussia. K. Preussisches aeronautisches Observatorium bei Lindenberg.
Ergebnisse der Arbeiten . . . 1909. Bd. **5.** Braunschweig. 1910. xxxvi, 248 p. f°.

Rizzò, G. B.
Relazione sul terremoto di Messina e della Calabria nel 28 dicembre 1908. Roma. 1909. p. 157–161. 4°. (Estratto: Relazione della Comm. r. incaricata di designare le zone più adatte per la ricostruzione . . .)
Sulla propagazione dei movimenti prodotti dal terremoto di Messina del 28 dicembre 1908. Torino. 1910. 63 p. f°. (Estratto: Mem. r. Accad. delle sci. Torino. Serie 2, Tom. **61:** 355–417.)

Rømer, Ole.
. . . Adversaria. Med understøttelse af Carlsbergfondet udgivne af det K. Danske videnskabernes selskab . . . København. 1910. 271 p. 4°. [Latin, index in French.]

Solvay, Ernest.
De la condensation électrique dans l'atmosphère. Bruxelles. 1907. 19 p. 8°. (Reprinted: Ciel et terre, 1907. **28.**)

St. Petersburg. Imperial forestry institute.
Observations de l'observatoire météorologique . . . 1907. [Title page in Russian and French.] Sankt Peterburg. 1909. xi, 67 p. f°.

Talman, Charles Fitzhugh.
Brief list of meteorological textbooks and reference books. 2d. ed. Washington. 1910. 18 p. 8°.

Wamsler, Friederich.
Die Wärmeabgabe geheizter Körper an Luft. München. 1909. 83 p. 4°. (Diss.—Technische Hochschule, München.)

Wells, Edward L.
Climate of Idaho [with tables of annual precipitation, 1891 to 1909.] (In Biennial report of the state engineer, v. **8,** 1909–1910) [Boise]. [1910]. p. 193–197. 8°.